

## ***Virtual and F2F education without borders***

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**Abstract** - Education slowly is moving into virtual world. Today, virtual and 'face to face' classes have no boundaries. Students are immersed in such learning environment that recreates internal meetings and provides with opportunities for collaboration. Virtual learning environments provide even greater opportunities than in the classroom.

**Keywords** - virtual reality, webinars, social media, web services, online learning, distance learning, information, and educational environment, interactive whiteboard.

### INTRODUCTION

The learning process is carried out as a joint activity of a teacher and a student. This interaction is accompanied by the exchange of information and communication, the quality of which depends largely on the effectiveness of training. Distance learning is a virtuality, which has become a reality.

Virtual reality (VR) is an artificial environment that is created with the help of specialized software and presented to a user so that he takes it as a substitute for the real world. According to Wikipedia, a virtual reality is a "technology that allows users to interact with a computer simulated environment".

### OBJECT AND PROBLEM

Creating an attractive and motivated learning environment it is necessary to assess and address the needs of students, the quality level of training and choose tools and ways of motivation. The student should feel constant support during the training and organizational development. "Having a lot of tools to work with, you just can decide yourself which ones are the best for the use in the educational process."

Usage of virtual whiteboards helps to vary activities, make them bright and fascinating [1].

It makes no sense to list all currently existing virtual interactive whiteboards; alternatively, the most important thing is to understand their effectiveness in the study process. The distinction between classroom and online training has been eliminating "Fig. 1".

Interactive whiteboard is a convenient modern tool for running effective meetings, business presentations, seminars and training sessions. Interactive whiteboards are

not only combination of the advantages of accustomed marker board and a large screen for the projector, but it also allows to save all notes and changes made during the discussion, and even to control computer applications directly from the board and without interrupting the performance. Interactive whiteboard has an intuitively user-friendly graphical interface. It permits the use of a variety of learning styles: visual, auditory or kinesthetic. Thanks to the interactive whiteboard, students can see the large color pictures, and charts that can be arbitrarily moved. While working with the interactive whiteboard, the teacher can do the following things.

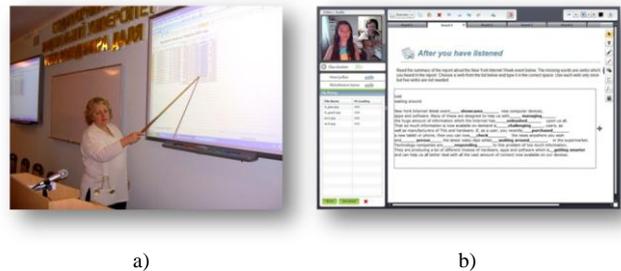


Figure 1. Usage of interactive boards: a) in the classroom; b) online

1. Actively to comment on material: select, refine, add stuff by electronic markers upon that changing the color and line thickness.

2. To make notes directly on the image, draw and make notes over any application and web resources, which increase the coverage of a subject. While working on an interactive whiteboard, one can take a marker and make a record, add a comment, draw a circle, underline or highlight the desired information.

3. To use different colors and methods of isolation.

4. Student's work can be scanned and displayed on the board, so the student can explain his decision or teacher checks commenting. If necessary, the teacher or other students correct mistakes "Fig. 2".

If the problem has several solutions, the other ones are put on the board with a scanner, and students have the possibility to quickly compare the different ways of doing things - it's in the classroom, or a new page of the board is created and necessary materials are uploaded on it [2]-[4].

The interactive whiteboard makes it possible to work like on a computer display: this is device that allows you to control applications on your computer. If a program is open on your computer, you can work with it directly on the interactive whiteboard. With a special electronic marker or even a finger you can make notes on the projected image to the board that will be stored in a special file on your computer. A speaker (lecturer) can not only highlight an image patch with a marker on the screen, but also make corrections in the text, manage computer applications with a highlighter, finger or computer mouse, use many features that make speech or presentation more lively and vivid. In case of the occurrence of questions on the previous issues you can easily

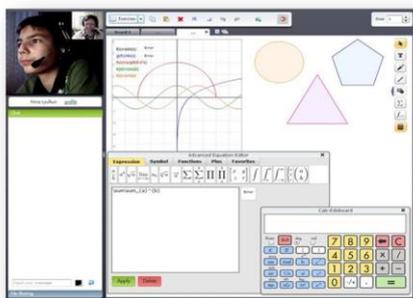


Figure 2. Some of the services of the virtual interactive whiteboard

get back to them, hence there is no need to restore the condition or decision. Thus, using an interactive whiteboard, you can organize regular student's work electronically "Fig. 3".

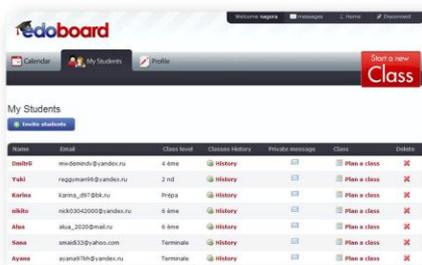


Figure 3. Fixing up new classes and materials for students training

This saves time, stimulates the development of intellectual and creative activity, makes all students who are in the audience (in a virtual room) to work. Using a board allows to open files to work with in the Internet, to write over any application, websites and video with special markers. By the time the work has been finished, you can keep all your notes for the future reference. All the entries easily might be erased by a special eraser. The board creates comfortable environment while explaining the material and maintains an atmosphere of cognitive interesting conversation in the discussion. The board is comfortable in the classroom due to the large work surface. Students focus on the big board easily and

without any tense. It induces interactivity, provides new opportunities for discussion and supports the positive dynamics of the educational process. Due to the visibility and interactivity, the audience is involved in active work. Perception becomes more acute. The concentration increases, understanding and retention of the material improve for certain. There is a possibility of natural communication with each other, including not only the dialogue "face-to-face," but collaboration over educational materials, view graphics and various items related to the topic of conversation, video insertion, reports (including those transmitted directly during teleconferencing) - all this is provided by video conferencing (or webinars). The main feature of the webinars, which has determined the interest in their practical use in distance education, is the possibility of implementing an interactive visual communication "Fig. 4".

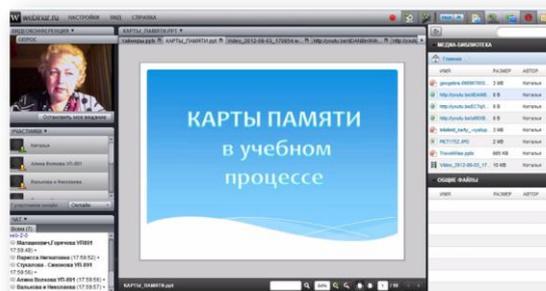


Figure 4. Delivering a lecture to students through webinar

Web conferences are widely applicable; anyhow it is teaching or tutoring, group work in real-time, or webinar allowing participants to discuss a topic at the same time. The basic set of features that you might expect from the services for Web conferencing is the possibility to upload and display files in PowerPoint, PDF, media files, and the availability of chat and interactive board. Google+ service Hangout, for example, does not offer such tools, but it will not be a surprise if they will appear there in the nearest future. The specific character of platforms is providing access to audio and video tools, the ability to record the webinar, compatibility with mobile devices and availability of virtual rooms [8]-[10].

The key role is played by the video conference moderator. He determines the success of the conference. There are seven basic collaboration features, implemented in modern webinar platforms:

- exchange of audio information;
- exchange of video data;
- whiteboard;
- discussion with input text information from the keyboard;
- file transfer;
- collaborative use of applications;
- running multilateral international conferences.

For the organization of conference calls at a high level a good quality equipment at every workplace is required.

It is typical to use various technologies of knowledge and skills, both with the use of computer and network tools, and in the traditional classroom mode for e-education in all its forms and formats.

Current and modular control in e-learning is almost always carried out by means of tests and/or complex control assignments, while at the final control preference is usually given to the f2f exam. Test is a set of questions/tasks aimed at the definition, i.e. measurement by the selected rating scale, the degree of assimilation of certain parts of the course content. The use of interactive whiteboards provides the opportunity to maximize the objectification of procedure and the results of students' knowledge evaluation makes it possible to run individual tutorial for students to overcome the difficulties in acquiring training stuff and eliminate the gaps in knowledge that can increase the motivation of cognitive activity.

#### CONCLUSION

Distance learning using interactive whiteboards allows to:

- expand the educational opportunities for students due to increasing of the availability and flexibility of education, taking into account their individual needs as well as the pace and rhythm in mastering educational material;

- encourage the formation of student's subjective position: increasing motivation, autonomy, social activities, and in acquiring study material, reflection and self-awareness and, as a consequence, increase the efficiency of the educational process as a whole;

- transform the teacher's style. That is to move from transmission of knowledge to interactive cooperation with students, that helps students along to design their own knowledge;

- personalize the learning process, when the learner himself determines his educational goals, the ways of reaching ones taking into account his educational needs,

interests and abilities; the teacher is only a student assistant.

While interactive mode, the learner's responsibility has been increasing and the development of his personal characteristics (activity, responsibility, initiative, etc.) and the meta-subject skills (self-organization, time management resources, etc.) have been stimulated. Compulsory condition of using virtual environment in the learning process is the computer availability at home with access to the Internet.

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